

Fact Sheet
Blue Grass Army Depot
Hazardous Waste Management Permit, Modification 1
July 13, 2005
Richmond, Madison County, Kentucky
EPA ID KY8-213-820-105, AI 2805

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The Kentucky Environmental and Public Protection Cabinet (Cabinet), Division of Waste Management (Division) has tentatively approved a major modification to a Hazardous Waste Management Permit at the Blue Grass Army Depot (BGAD), at 2091 Kingston Highway, Richmond, Kentucky. The facility contact is Todd Williams (859) 779-6280.

BGAD currently operates hazardous waste storage and treatment facilities. Some units are permitted, and some units on interim status. The permitted hazardous waste storage facilities consist of two (2) storage igloos that are designed to receive and store, beyond a 90-day accumulation time, spent heavy metals, characteristic hazardous waste, or reactive waste (propellant, etc.). This modification is to permit the storage of hazardous waste munitions containing nerve and blister agents, and chemical related hazardous waste generated as a result of the storage of the chemical munitions. The storage facilities added to the permit consist of 46 storage igloos in the Chemical Limited Area. Of these igloos, one (1) is for storage of chemical related hazardous waste, one (1) is for storage of containers of nerve agent mixed with decontamination solution, and the remaining 44, contain chemical munitions.

This tentative and final Hazardous Waste Management Permit Modification is strictly to add the storage of chemical munitions and related hazardous waste to the existing permit, and is **not** to be confused with any aspects of the handling and proposed destruction of nerve and blister agents at the depot. Permitting of the chemical weapons demilitarization is being conducted separately from this hazardous waste permit.

Some information listed in the Part A has been granted Confidential Business Information (CBI). The information not listed pertains to the specific igloos that contain chemical munitions and was granted CBI for the sake of national security.

This tentative Hazardous Waste Management Permit is also to declare certain additional previously identified (1992, RCRA Facility Assessment) real and potential contaminated sites at the BGAD as requiring no further action. These sites are discussed in this Fact Sheet under the heading **Other Activities Covered by this Permit.**

Purpose of the Permitting Process

The Division has tentatively decided to issue a permit modification to BGAD (Permittee) for additional hazardous waste storage. The permit includes conditions required under the United States Resource Conservation and Recovery Act (RCRA) and portions of the Hazardous and Solid Waste Amendments (HSWA).

The permitting process gives the public the opportunity to evaluate BGAD's ability to comply with the hazardous waste management regulations. The Division must prepare a "draft" permit that identifies within one concise document, every applicable requirement that BGAD must

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complete. The public has 45 days to review the draft permit and submit comments before the Cabinet makes any final permit decision. Public health, safety, and environmental issues have been considered in the review of the permit application.

Facility Description

The Blue Grass Army Depot (BGAD) is a 14,596-acre facility operated by the United States Army and is located within Madison County, Kentucky. The facility was established in April 1942 during World War II by the War Department as an expansion of ordnance supply depots. The current primary function for BGAD is the storage and management of conventional and chemical munitions. The majority of hazardous waste generated at the facility results from the demilitarization, renovation, maintenance, storage, and disposal of conventional munitions. Waste management practices include the destruction of ammunition and ordnance, storage of hazardous wastes, and wastewater treatment. Ordnance and munitions are typically stored in warehouses and earth-covered magazines (igloos).

Activity, which is the Subject of the Draft Permit

The BGAD serves as a depository for many types of military munitions. Conventional weapons are brought on site for temporary storage and management. Included within this management and operations at the site are the reconditioning, renovation, demilitarization and the demolition of various types of ordnance and munitions. These operations produce hazardous wastes such as paint filters, sludge filters, and various heavy metal constituents.

The BGAD also stores chemical munitions (mustard and nerve agents) and some waste generated during emergency operations, but do not manifest or transport any of these items off the depot.

Chemical related hazardous waste is generated during the routine management of the chemical munitions stockpile. Waste that can be decontaminated to a level appropriate for shipment is disposed of off-site. This waste includes:

WASTE STREAM #	WASTE CODE	DESCRIPTION
7	D007, N001, N002, and/or N002	Agent contaminated carbon filters with chromium
8	D007	Filters with chromium (uncontaminated with agent)

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9	D001, D002, D003, D004, D011, D018, D022, D035, D036, D037, D039, D040, D043, U002, U044, U103, U127, U154, U156, U165, U131, U210, F001, F002, F003, F004, N001, N002, and/or N003	Chemical Laboratory wastes
10	D001, D003, D004, D009, D011, D012, D030, N001, N002, and/or N003	Explosives components of chemical agent munitions
11	D001, D008, D009, N001, N002, and/or N003	Explosives components of chemical agent munitions
12	N001, N002, and/or N003	Agent contaminated and otherwise non-hazardous debris
13	D002, N001, N002, and/or N003	Spent decon chemicals
14	D002	Unused but expired decon chemicals
15	N001, N002, and/or N003	Agent exposed PPE
16	D003, N001, N002, and/or N003	Agent exposed reactive materials
17	D003, D005, D008, N001, and/or N002	Chemical agent munitions (non-explosive components)
18	D003, D005, D008, N003	Mustard projectiles (non-explosives)
19	D003, N001	GB Leaker Reactive Waste
20	N001	GB Ton Containers
21	N002, N003	VX and H Dot Bottles

D001- Ignitable Waste; D002- Corrosive Waste ; D003- Reactive Waste; D004- Arsenic; D005- Barium; D007- Chromium; D008- Lead; D009- Mercury; D011- Silver; D012- Endrin; D018- Benzene; D022- Chlordane; D030- 2,4-Dinitrotoluene; D035- Methyl ethyl ketone; D037- Pentachlorophenol; D039- Tetrachloroethylene; D040 Trichloroethylene; D043- Vinyl chloride; F001 and F002- Spent halogenated solvents; F003, F004- Spent nonhalogenated solvents; U002- Acetone; U044- Chloroform; U103- Dimethyl sulfate; U127- Hexachlorobenzene; U131- Ethane, hexachloro-; U154- Methanol; U165- Naphthalene; U210- Tetrachloroethylene; N001-

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GB (isopropyl methyl phosphonofluoridate); N002- VX (0-ethyl-S-(2-diisopropyl-aminoethyl) - methyl phosphonothiolate); N003- H (bis(2-chloroethyl) sulfide) and related compounds.

The hazardous waste streams added by this modification includes spent heavy metals, reactive wastes (propellant, etc.) and paint filters, as well as personal protective equipment, spent monitoring waste and decontamination solutions used during chemical munitions storage operations. This permit modification will allow BGAD to store these hazardous wastes in one (1) storage igloos within the Chemical Limited Area. This igloo may contain up to 320, 55-gallon drums or the equivalent, but not more than 16,000 volumetric gallons. Storage of free liquids in this igloo cannot exceed 7,140 gallons. Once the wastes have accumulated, they are manifested for transportation to an appropriate permitted disposal facility, or treatment plant.

The container storage areas added to this permit are:

Unit Name	Process Code	Process Capacity	Unit of Measure	No. of Individual Units
Container Storage I	S01	3831	Gallons	1
Container Storage J	S01	3831	Gallons	1
Container Storage K	S01	3831	Gallons	1
Container Storage L	S01	3831	Gallons	1
Container Storage M	S01	3831	Gallons	1
Container Storage N	S01	3831	Gallons	1
Container Storage O	S01	3831	Gallons	1
Container Storage P	S01	3831	Gallons	1
Container Storage Q	S01	3831	Gallons	1
Container Storage R	S01	3831	Gallons	1
Container Storage S	S01	3831	Gallons	1
Container Storage T	S01	3831	Gallons	1
Container Storage U	S01	3831	Gallons	1
Container Storage V	S01	3831	Gallons	1
Container Storage W	S01	3831	Gallons	1
Container Storage X	S01	3831	Gallons	1
Container Storage Y	S01	3831	Gallons	1
Container Storage Z	S01	3831	Gallons	1
Container Storage AB	S01	3831	Gallons	1
Container Storage CD	S01	3831	Gallons	1

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Container Storage EF	S01	3831	Gallons	1
Container Storage GH	S01	3831	Gallons	1
Container Storage IJ	S01	3831	Gallons	1
Container Storage KL	S01	3831	Gallons	1
Container Storage MN	S01	3831	Gallons	1
Container Storage OP	S01	3831	Gallons	1
Container Storage QR	S01	3831	Gallons	1
Container Storage ST	S01	3831	Gallons	1
Container Storage UV	S01	3831	Gallons	1
Container Storage WX	S01	3831	Gallons	1
Container Storage YZ	S01	3831	Gallons	1
Container Storage ZA	S01	3831	Gallons	1
Container Storage YB	S01	3831	Gallons	1
Container Storage XC	S01	3831	Gallons	1
Container Storage VE	S01	3831	Gallons	1
Container Storage UF	S01	3831	Gallons	1
Container Storage TG	S01	3831	Gallons	1
Container Storage SH	S01	3831	Gallons	1
Container Storage RI	S01	3831	Gallons	1
Container Storage QJ	S01	3831	Gallons	1
Container Storage PK	S01	3831	Gallons	1
Container Storage NM	S01	3831	Gallons	1
Container Storage MN	S01	3831	Gallons	1
Container Storage LO	S01	3831	Gallons	1

Basis for Draft Permit Conditions

The permit is divided into eight parts: Part I sets forth the basic legal authority for issuing the permit; Part II contains the conditions that are specifically applicable to this particular facility; Part III contains standard conditions applicable to all hazardous waste management facilities; Part IV contains corrective action requirements for this facility; Part V contains Waste Minimization; Part VI contains Land Disposal Restrictions, Part VII contains RCRA Organic Air Emission Requirements, if any; and Part VIII contains all referenced attachments. The conditions are listed by subject matter, and in the opinion of the Cabinet, will ensure compliance with the referenced Kentucky Administrative Regulation (KAR) from Title 401, and more specifically, the hazardous waste management regulations.

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Justification for Alternatives to Required Standards

BGAD is not capable of meeting all applicable requirements established in 401 KAR 34, and 38. Three compliance issues are addressed through alternative standards or compliance schedule conditions.

1. **Labeling.** 401 KAR 37:050, Section 1(1)(b) "Each container is clearly labeled with the words "Hazardous Waste," marked to identify its contents and the date each period of accumulation begins;"

The facility permit application has a detailed description of how chemical munitions are labeled. The information on the labels, clearly defines the content of each munition.

It is the opinion of the Division that requiring BGAD to re-label each chemical munitions at this time presents unnecessary risks that outweigh the need to label each munition with prescribed hazardous waste labels. Overpacked munitions, as of the issuance of this permit, and Chemical Related Hazardous Waste must be labeled per 401 KAR 37:050.

2. **Secondary Containment.** 401 KAR 34:180, Section 6.
“(1) Container storage areas must have a containment system that is designed and operated in accordance with subsection (2) of this section except as otherwise provided in subsection (3) of this section.
(2) A containment system must be designed and operated as follows:
(a) A base must underlie the containers which is free of cracks or gaps and is sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and removed;”

Some of the chemical munitions storage igloos may have floor cracks. The area has restricted access. The floors are sloped to collect water or other liquids. All liquids are collected, and tested before treatment or disposal. There is a comprehensive chemical agent monitoring plan.

It is the opinion of the Division that requiring BGAD move chemical munitions, at this time, to inspect and repair igloo floors, presents unnecessary risks that outweigh the need to inspect and repair floors. BGAD will be required to demonstrate that this condition is met;

- (1) If an opportunity exists, when munitions are re-warehoused.
- (2) Prior to storing any new hazardous waste in these storage areas after the munitions are removed for disposal.
- (3) If hazardous waste will be stored in the chemical Munitions Storage Igloos after April 29,

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2012.

3. **Storage Beyond One Year.** 401 KAR 37:050, Section 1(3) “An owner or operator of a treatment, storage or disposal facility may store such wastes beyond one (1) year, however, the owner or operator bears the burden of proving that such storage was solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal.”

There is currently no approved treatment or disposal facility within the Commonwealth of Kentucky for chemical munitions. BGAD has submitted an application to build one. It is illegal to ship chemical munitions across state lines.

It is the opinion of the Division that allowing the facility to properly design, build, and test a treatment plant for chemical munitions presents fewer risks in the near term, than continuing to store the munitions. However, it is also the position of the Division that these chemical munitions must be disposed of by April 29, 2012. The draft Hazardous Waste Permit Modification includes a compliance schedule (April 29, 2012) for the disposal of the chemical munitions.

There are no variances for air emission standards since there should be no air pollutants associated with this permit. In the future, the open burn and open detonation grounds may be incorporated into this permit by modification, at which time the associated standards will be addressed.

Other Activities Covered by this Permit

A 1992 RCRA Facility Assessment identified a number of Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs). Past installation practices include the storage and handling of hazardous materials and wastes along with incidental spills and leaks. As a result of these practices, releases of contaminants to soil and groundwater have occurred at the site. Environmental investigations at the facility confirmed the presence of those various contaminants and explosives within the soils. Those investigations also provided the data for determining the types of contaminants present, and the horizontal and vertical extent of those contaminants within both the soil and groundwater.

Three (3) Solid Waste Management Units (SWMUs) will receive a No further Action (NFA) status with this permit modification. They are SWMU 15, 16, and 27.

- SWMU 15- General Refuse Incinerator. Scrap Metal Storage Area
- SWMU 16- General Refuse Incinerator. Ash Accumulation Area
- SWMU 27- Old TNT Washout Facility

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The constituent of concern (COC) at SWMUs 15 & 16 was arsenic, and a total of 15 cubic yards of material was removed and disposed of at an off-site, hazardous waste landfill. The COC at SWMU 27 was lead, and 66.7 cubic yards of material was removed there.

The present day status of each SWMU and AOC is identified in the tables attached to this Fact Sheet.

Procedures for Reaching a Final Decision on the Draft Permit

The purpose of the permitting process is to afford interested citizens the opportunity to evaluate the ability of the Permittee to comply with applicable hazardous waste management regulations. The Cabinet is required to prepare a draft permit which sets forth, in one concise document, all applicable requirements that the Permittee will be required to carry out during the ten year duration of the permit. The existence and availability of the draft permit is announced through a public notice, which is mailed to appropriate agencies and individuals indicated on the mailing list from the facility. The public notice is also published in a major local newspaper and broadcast over a commercial radio station in the city/county where the facility is located. The public notice announces the opening of a forty-five (45) day public comment period in which any interested person is encouraged to submit comments on the proposed activity.

The public comment period for BGAD's draft permit began on July 17, 2005, the date the public notice was first published in the Richmond Register and Lexington Herald Leader newspapers. The public comment period will end on August 31, 2005.

The Division will conduct a public hearing (pursuant to 401 KAR 38:050, Section 9) for the draft permit on August 30, 2005. The hearing will be held at 6:00 Pm at the Carl Perkins building on the ECU campus in Richmond, KY. The purpose of the hearing will be to explain the crucial points in the draft permit and to accept oral and written comments from the public. Individuals and citizen groups are encouraged to present oral or written comments and data concerning the proposed permit. Reasonable limits may be set on the time allowed for oral statements. The Cabinet will consider all comments received during the comment period in making a final decision regarding the permit application.

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The administrative record, which includes the draft permit and related information, can be reviewed at the following locations:

1. Madison County Public Library, Richmond Branch
507 West Main Street
[Richmond](#) KY 40475
2. Madison County Public Library, Berea Branch
319 E. Chestnut
[Berea](#) KY 40403

Point of contact:

Sue Hays, Director
(859) 625-1285

Email: suehays@madisonlibrary.org.

3. Blue Grass Chemical Stockpile Outreach Office
301 Highland Park Drive
Richmond, KY 40475

Point of contact:

Ms. Sandra Plant
(859) 626-8944

Email: outreach@bechtel.com

Business Hours: M-F 8:30 a.m. to 5 p.m.

4. Division of Waste Management
14 Reilly Road
Frankfort, Kentucky 40601-1190

Point of contact:

Maria Wood
(502) 564-9232 (fax)

Email: maria.wood@ky.gov

To make an appointment, submit a written request at least 72 hours prior to the desired review date. Copying charges are 10 cents per page, and \$2 for each map and blueprint, plus state sales tax. Upon request, this information can be made available in alternative formats.

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Anyone wishing to submit a comment, needing additional information, wanting to be put on the facility mailing list, or requesting a hearing should contact:

Shannon Powers
Kentucky Environmental and Public Protection Cabinet
Division of Waste Management
14 Reilly Road
Frankfort, Kentucky 40601
(502) 564-6716, ext. 246
Email: Shannon.powers@ky.gov

After consideration of all oral and written comments and requirements of state laws and regulations, the Secretary of the Environmental and Public Protection Cabinet will make a final decision regarding permit issuance. If the tentative decision to issue a permit is substantially changed, the Cabinet will issue a public notice indicating a revision of decision. If the tentative decision to issue a permit is substantially unchanged from those announced in the public notice, notification of issuance will be given to the applicant and each person who has submitted comments or who has requested notice of the final permit decision.

When a final permit is issued, the Cabinet will also release a Response to Comments document. All significant comments on the draft permit, raised during the public comment period, will be responded to in the Response to Comments document.

Any person who may be aggrieved by the issuance of the permit for the hazardous waste storage facility may file a petition with the Cabinet, which sets forth the grounds of the objection and the demand for a formal hearing pursuant to KRS 224.10-420(2). This type of hearing is held before a hearing officer. All parties are advised to have legal counsel present.

The Cabinet does not discriminate on the basis of race, color, national origin, sex, religion, age, or disability and provides, upon request, reasonable accommodations including auxiliary aids and services necessary to afford individuals with a disability an equal opportunity to participate in all programs and activities.

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Solid Waste Management Unit (SWMU) Status—July 13, 2005

SWMU #	SWMU Name	Status
1	Open Detonation Area	Regulated Unit
2	Mustard Trenches	LUCs/LTM
3	Pink Water Pond Site	LUCs/LTM
4	Drum Storage Trench	NFA
5	M55 Leaker Detonation Site	Regulated Unit
6A	Old Projectile/Propellant Burn Area	LUCs/LTM
6B	New Propellant Burn Area	Regulated Unit
7	Former Waste Ammo Detonation Area	LUCs/LTM
8	Paint Filter Disposal Site	NFA
9	Contaminated Waste Processor	NFA
10	Battery Burial Area	NFA
11	DEAC Furnace	NFA
12	DEAC Scrap Metal Storage Area	Confirm. Sampling
13	DEAC Lead Slag Disposal Area	NFA
14	General Refuse Incinerator	NFA
15	General Refuse Incin. Scrap Metal Storage area	NFA
16	General Refuse Incin. Ash Accumulation Area	NFA
17	Wood Dump/Kindling Yd. (Fire Training Area)	NFA
18	Defense Reutil. And Marketing Office Salvage Yard	NFA
19	Electrolyte Storage Area	NFA
20	Water Treatment Plant Ditch	NFA
21	Old Transformer Storage Area	NFA
22	Rubble Pile	NFA
23	Interim Status Storage Igloos (Area B)	Regulated Unit
24	New TNT Washout Facility	RFI
25	New TNT Washout Lagoons	RFI
26	Old PCB Transformer Storage Area (Bldg. 1178)	NFA
27	Old TNT Washout Facility	NFA
28	Dry Acid Ponds	NFA
29	Old Washout Lagoons	Remed. Action
30	Derusting/Repainting Operations	NFA
31	Project CHASE	NFA
32	New Landfill	LUCs/LTM
33	Area F Chemical and Nerve Agent Storage	Regulated Unit
34	Temporary H Storage Site	NFA
35	Old Landfill	LUCs/LTM
36	North Battery Burial Area	NFA
37	Boiler Blowdown Tank Discharge Areas	NFA

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38	Drill and Transfer System (DATS)	NFA
39	Area G Storage Igloos	Regulated Unit

Areas of Concern (AOC) Status-August 15, 2003

AOC	AOC Name	Status
A	Former H Projectile Demil. Site No. 1	NFA
B	Former H Projectile Demil Site No. 2	NFA
C	Former Mustard Shell Demil Site	NFA
D	Igloo B709	NFA
E	Projectile Assembly Area, Bldg. 1170	NFA
F	Burster and Fuse Removal Area, Bldg 550	NFA
G	Projectile Renovation Area, Bldg 1180	NFA
H	Surveillance Test Range	NFA
I	Tracer Test Range	NFA
J	Training Area/Gun Range	NFA
K	Sewage Treatment Plant, Bldg 230	NFA
L	Water Treatment Plant	NFA
M	Conventional Ammo Storage Area (Igloos)	NFA
N	Magazine Area M	NFA
O	Underground Storage Tanks (50)	NFA
P	Above Ground Storage Tanks	NFA
Q	Lab Areas, Bldgs. 1600 and 1661	NFA
R	Pesticide Storage Area	NFA
S	Septic Tanks/Leach Fields (F Area)	NFA
T	Maintenance Shops	Add. Investigation
U	Wastewater treatment Facility, Bldg 1173	NFA
V	Receiving Area, Bldg 218	NFA
W	Building B-51	NFA

NOTES:

The present day Status of many of the listed SWMUs and AOCs is an anticipated remedy, not an approved remedy at this time. Following is an explanation of the abbreviations listed for the various units.

Add. Investigation-additional investigations required

Confirm. Sampling –confirmatory sampling required

LUC/LTM-land use controls/long term monitoring is proposed remedy

NFA-no further action or no further investigation required for this unit

Regulated Unit-waste management unit that handled, treated or disposed of hazardous waste since 1983
Remed. Action-remedial action or cleanup is presently being done

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RFI/CMS –RCRA Facility Investigation/Corrective Measure Study presently being conducted